

Does Alkenone δD Record Seawater δD ? Analysis of sediment, water and particulate samples from the Central Equatorial Pacific

Pratigya J. Polissar

Lamont Assistant Research Professor, Lamont-Doherty Earth Observatory

Abstract.

Salinity is a primary determinant of ocean circulation yet there are few proxies for past ocean salinity. Seawater δD and salinity are strongly related in the modern ocean. Therefore past salinity could be reconstructed if the δD of seawater could be determined. In the proposed work I will investigate how alkenone δD values reflect seawater δD values in the Central Equatorial Pacific. In addition to the primary goal of understanding δD systematics in alkenones, this work will also provide a calibration dataset for new sediment cores from the Line Islands region where it could be possible to reconstruct ITCZ position through alkenone δD measurements.